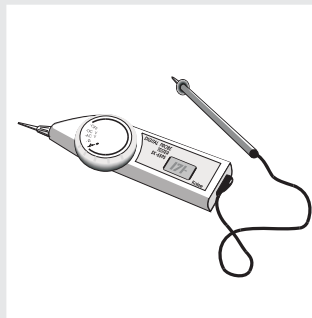


Operator CDM9

Trouble Shooting Guide CDM 9 ECS 920, 930, 950 (all types)



For Automation, safety and additional

When measuring the voltage, a nominal value of $\pm 10\%$ applies.
Connection block X1:7 is low voltage neutral.

Explanation of part names

Processor card:



When the text within this document mentions the “Processor card” it refers to the electronic circuit board placed on the operator’s rear lid inside the operator containing the frequency converter and other electronics. All the cables going out of the operator is connected to the Processor card.

Power card:



When the text within this document mentions the “Power Card” it refers to the electronic circuit board placed inside the operator containing the transformer to the 24VAC and the sensor for detecting the disengagement of the operator. The Power card is installed into the operator and in order to remove it you need to first unscrew the two torx screws on the side of the operator (if you have the old revision of the Power card) and then remove the operators’ rear lid cautiously.

“C”-card:



When the text within this document mentions “C-card” it refers to the electronic circuit board containing the standard functions for the ECS 950 control box. The C-card is placed physically inside the lid of the Control box. The ECS 950 Control box has a Service indicating and counters display that visual a counter for door cycles and error codes. The Service indicating lamp lit up when the pre-set door cycles or time is reached.

Manoeuvring card:



When the text within this document mentions “manoeuvring card” it refers to the electronic circuit board used to connect the cables from the operator to the ECS 950 control box. This manoeuvring card is fitted with the installation switch used during installation. The card includes the 2 lamps (LED:s) that indicates the status of the stop circuit and upper limit switch.

HR-relay card:



When the text within this document mentions “HR-relay card” it refers to the electronic circuit board containing the power supply to external additional for the ECS 950 control box.

Service tool:



When the text within this document mentions “the service tool” it refers to the special tool only available to certified Crawford service technicians. The service tool is an electronic box that can be used to display the error codes and to set and clear service intervals. See separate user manual for the service tool.

Trouble shooting IDM9 with Control unit ECS 920

What should I do?

If the Operator does not start, check that it has not been disengaged.

Try to reset the control unit. Do this by cutting off the supply voltage and switch it on again after 5 seconds.

If the problem persists, try to test operate the door so that you are certain of the fault symptoms which apply:

- Any fault occurring on torque guard, encoder or in the control card memory is indicated by the door being put into hold-to-run for opening as well as closing. Refer to **Paragraph 3** in ECS 920 Troubleshooting Guide.

- If the door is not properly balanced, the door may stop on the way, due the torque guard. Refer to **Paragraph 4** in ECS 920 Troubleshooting Guide.

Disengage and put the door in a middle position. Engage the door and check that the engagement has taken effect (by pulling the door up and down).

NOTE! Always break the supply voltage when replacing PCB's or wires.

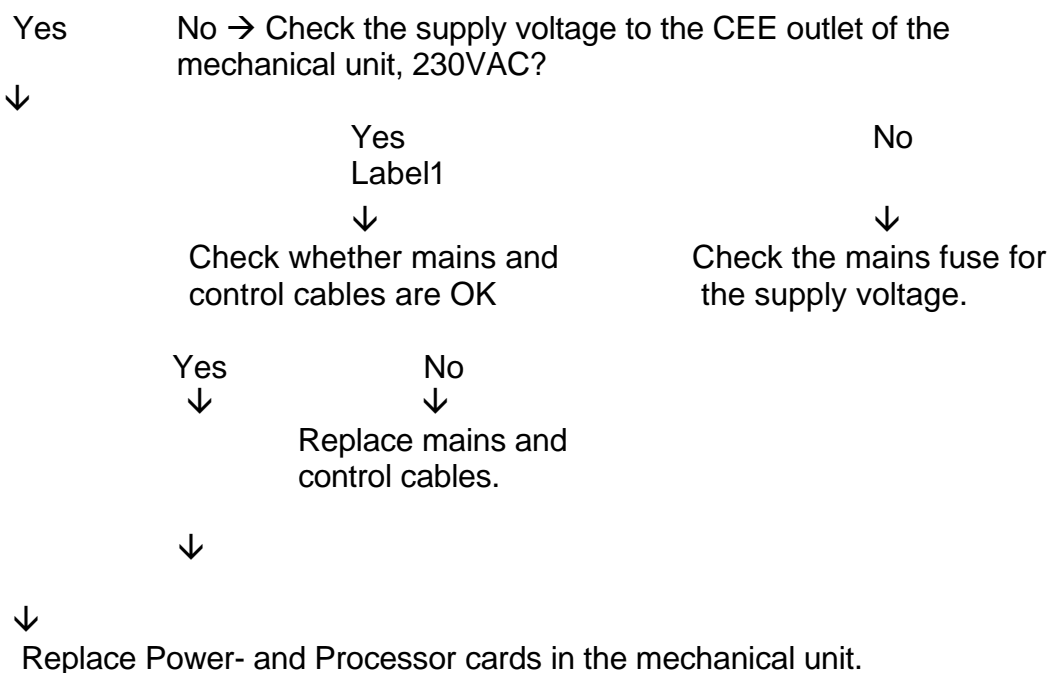
Problems during installation

- If the encoder is broken, one will be able to operate the door in hold-to-run up but it will lock out in open position.
- If the encoder is damaged but still counts pulses (but it misses some), the door will lose its position. The door will then not slow down, stop and similar.
- If the acknowledgement from the installation tool is to short or fail, one will not be able to complete the installation. One indication of this is that the door doesn't reverse after a short run in the last step instead it will run all the way down and reverse against the tool.
- If the fuses blow all the time during installation (or after some use of the door), it is probably caused by a flashover in the electrical motor. This is presuming that the heavy current is installed in the right way.
- The two leds, **D8 and D9**, on the manoeuvring pcb, indicates the stop circuit, if both are lit on a IDM 9 the stop circuit is ok.

1. The door does not start to go up when the Up button is activated

Open the lid of the control box and check that the contacts X4 and X5 for the lid are connected correctly and that the contact blocks with jumper is mounted on X2 and X3. Check in the normal mode (not the installation mode) that there is no 24V AC between X1:7 and X1:1 or X1:3, when neither the Up nor Down button has been activated, (if 24V AC is present, one of the buttons may be stuck).

1:1 24V AC between X1:6 and X1:7?



1:2 24V AC between X1:7 and X1:9?

Yes No → Replace the manoeuvring card.

1:3 24V AC between X1:7 and X1:10?

Yes No → Check the external stop button or jumper.

1:4 24V AC between X1:7 and X1:2?

Yes No → Check the stop button in the lid

1:5 24V between X1:7 and X1:12?

Yes No → Replace the manoeuvring card.

1:6 24V between X1:7 and X1:5?

Yes No → Replace the manoeuvring card.

1:7 24V AC between X1:7 and X1:1 when the Up button in the lid is activated?

Yes No → 24V AC between X1:7 and X5:1?

Yes

No → Replace the manoeuvring card.

↓

24V AC between X1:7 and X5:2 when the Up button in the lid is activated?

Yes

No → Replace the lid.

Replace the manoeuvring card.

1:8 Re-install the operator in accordance with the installation instructions in the manual.

Is it possible to operate the door upward using the Up or Down button?

Yes



No → Check that the door is not disengaged. OK?

Yes

No

↓

Check/change control cable. OK?

↓

Yes

No

↓

Change Power- and Processor cards. OK?

Yes

No

↓



↓

Change mech.
unit.

↓

↓

↓

↓

1:9 Complete the installation in accordance with instructions in the installation manual. Is the door working OK?

Yes

No → Check whether the fault symptoms are the same as those in any other paragraph in this trouble shooting guide. Possibly replace the Power- and Processor cards.

Test operate the door for a while and check all of its functions.

2. The door does not start to go down when the Down button is activated

2:1 24V AC between X1:7 and X1:3 when the Down button in the lid is activated?

Yes	No → 24V AC between X1:7 and X5:3 when the Down button in the lid is activated?
↓	
	Yes No → Replace the lid.
	↓
↓	Replace the manoeuvring card.

2:2 24V AC between X1:7 and X1:5?

Yes	No → SW2 in the right position (see manual)? Possibly replace the manoeuvring card.
↓	

2:3 Re-install the operator in accordance with the instructions in the installation manual. Can the door be moved upward using the Up or Down button?

Yes	No → Replace the Processor card.
↓	

2:4 Complete the installation in accordance with the instructions in the installation manual. Is the door working OK?

Yes	No → Check whether the fault symptoms are the same as those in any other paragraph in this troubleshooting guide. Possibly replace the Power- and Processor card.
↓	
Test operate the door for a while and check all of its functions.	

3. The Door is in hold-to-run up and down

This happens if any fault has occurred on the torque guard, encoder or in the control card memory, this will be shown by the door being in hold-to-run function up and down.

3:1 Re-install the operator in accordance with the installation instructions in the manual. Is the door working OK?

Yes	No → Replace the Processor card and do a re-installation. OK?
↓	
	Yes No → Change the mech. unit and re-install.
↓	↓ ↓
Test operate the door for a while and check all of its functions.	

4. The door reverses on the way down

If the door is not properly balanced, the door may stop on the way, due to the torque guard.

4:1 Check, by disengaging and pulling down the door manually, that the door does not move abnormally bad on the way down, and that the door is balanced normally. OK?

Yes No → Adjust the door.
↓

**4:2 Adjust the door machinery torque (force) or re-install the operator in accordance with the installation instructions in the manual.
Is the door working OK?**

Yes No → Replace the Processor card and do a reinstallation.
Is the door working OK?

↓ Yes No → Change the mech. unit. Re-install.
 ↓ ↓

Test operate the door for a while and check all of its functions.

Trouble shooting IDM9 with Control unit ECS 930

What should I do?

If the machinery does not start, check that it has not been disengaged.

Try to reset the control unit. Do this by cutting off the supply voltage and switch it on again after 5 seconds.

If the problem persists, try to test operate the door so that you are certain of the fault symptoms which apply:

- Any fault occurring in the pinch guard is indicated by the door having impulse operation for opening and hold-to-run for closing. If any fault is detected in the pinch guard when the door is closing, the door stops quickly and reverses to fully open position. The door is then put into impulse operation for opening and hold-to-run for closing. The pinch guard supervision can be reset automatically, if it is operational and gets a signal at the floor. (<50mm from the floor) during hold-to-run operation down. A pulse of at least 150ms is required for the pneumatic pinch guard. Refer to Paragraph 3 in ECS 930 Trouble shooting Guide.

- Impulse for opening/hold-to-run for closing are obtained if the torque guard has been activated when the door is located less than 50 mm from the floor and the pinch guard has received no acknowledgement pulse. This may be due to incorrect balancing and/or the door getting stuck. Refer to Paragraph 6.

- Any fault occurring on torque guard, encoder or in the control card memory is indicated by the operator being put into hold-to-run operation for opening as well as closing. Refer to Paragraph 5 in ECS 930 Trouble shooting Guide.

- If an installed operator happens to move in the wrong direction, the door stops against the floor and is inoperable, after which a re-installation is required. Re-install the operator in accordance with the installation instructions in the manual.

- If the door is not properly balanced, the door may either reverse on the way down or stop on the way up, due to the torque guard. Refer to Paragraph 6 in ECS 930 Trouble shooting Guide.

- Any fault occurring on the safety photocell is indicated by the door first stopping gently and then reverses to fully open position. Or if a permanent failure has occurred, the door cannot be closed. Refer to Paragraph 7 in ECS 930 Trouble shooting Guide.

- The two leds, **D8 and D9**, on the manoeuvring pcb, indicates the stop circuit, if both are lit on a IDM 9 the stop circuit is ok.

- After it is disengaged or if power is cut off, the door can only be opened at first (to fully open position, in order to find its upper end position). If, during this, the door stops (by the torque guard) before it has reached the shock absorber, the door will reverse against the floor when it is next closed. After that, it will go into hold-to-run for opening as well as closing, (refer to Paragraph 5 in ECS 930 Trouble shooting Guide).

Disengage and put the door into an intermediate position. Engage the operator and check that engagement has taken effect (by pulling the door up and down).

Problems during installation

If the encoder is broken, one will only be able to operate the door in hold-to-run up, but it will lock out in fully open position.

If the encoder is damaged but still counts pulses (but it misses some), the door will lose its position. The door will then not slow down, stop and similar.

NOTE! Always break the supply voltage when replacing PCB's or wires.

1. The door does not start to go up when the Up button is activated.

Open the lid of the control box and check that contacts X4 and X5 for the lid are connected correctly and that the contact block with jumpers is mounted on X2 and X3. Check in the normal mode (not the installation mode) that there is no 24V AC between X1:7 and X1:1 or X1:3, when neither the Up nor Down button has been activated, (if 24V AC is present, one of the buttons may be stuck).

1:1 24V AC between X1:6 and X1:7?

Yes	No → Check the supply current to the CEE outlet of the mechanical unit—230V AC. OK?
↓	
	Yes No → Check the mains fuse for the output.
	↓
	Check whether mains and control cables are OK.
	Yes No → Replace mains and control cables.
	↓
↓	Replace Power- and Processor card in the mechanical unit.

1:2 24V AC between X1:7 and X1:9?

Yes	No → Replace the manoeuvring card.
-----	------------------------------------

↓

1:3 24V AC between X1:7 and X1:10?

Yes	No → Check the external stop button.
-----	--------------------------------------

↓

1:4 24V AC between X1:7 and X1:2?

Yes	No → Check the stop button in the lid plus contact X4, plus contact block X2 with jumper mounted between pins 3-4, possibly replace circuit card in the control box.
-----	--

↓

1:5 24V between X1:7 and X1:12?

Yes	No → Replace the manoeuvring card.
-----	------------------------------------

↓

1:6 24V between X1:7 and X1:5?

Yes No → Check contact X3 plus jumper mounted between 1-2, possibly replace circuit card in the control box.

↓

1:7 24V AC between X1:7 and X1:1 when the Up button in the lid is activated?

Yes No → 24V AC between X1:7 and X5:1?

↓

Yes No → Replace the manoeuvring card.

↓

24V AC between X1:7 and X5:2 when the Up button in the lid is activated?

↓

Yes No → Replace the lid.

↓

Replace the manoeuvring card.

1:8 Re-install the operator in accordance with the installation instructions in the manual.

Is it possible to operate the door upward using the Up or Down button?

Yes No → Check that the door is not disengaged. OK?

↓

Yes

↓

No

↓

Check/change control cable. OK?

↓

↓

Yes

↓

No

↓

Change Power- and Processor cards. OK?

↓

↓

↓

Yes

↓

No

↓

Change mech. unit.

↓

↓

↓

↓

1:9 Complete the installation in accordance with instructions in the installation manual. Is the door working OK?

Yes No → Check whether the fault symptoms are the same as those in any other paragraph in this troubleshooting guide. Possibly replace the manoeuvring card.

↓



Test operate the door for a while and check all of its functions.

2. The door does not start to go down when the Down button is activated

2:1 24V AC between X1:7 and X1:3 when the Down button in the lid is activated?

Yes No → 24V AC between X1:7 and X5:3 when the Down button in the lid is activated?

Yes No → Change lid
↓
Replace the manoeuvring card.



2:2 Check whether the pinch guard is OK, in accordance with Paragraph 3.

Yes



2:3 24V AC between X1:7 and X1:5?

Yes No → Check contact X3 plus jumper mounted between 1-2, SW2 in the right position (see manual)?. Possibly the manoeuvring card.



2:4 Re-install the operator in accordance with the instructions in the installation manual. Can the door be moved upward using the Up or Down button?

Yes No → Replace the Power- and Processor cards.



2:5 Complete the installation in accordance with the instructions in the installation manual. Is the door working OK?

Yes No → Check whether the fault symptoms are the same as those in any other paragraph in this troubleshooting guide. Possibly replace the Power- and Processor card.



Test operate the door for a while and check all of its functions.

3. The door has impulse function for opening and hold-to-run for closing.

Check that the door does not get stuck before the pinch guard is activated against the floor. If this is the case, adjust the rails/roller cage.

24V AC between X1:7 and X1:12?

Yes No → Change the manoeuvring card.



3.0 PNE Pinch guard Supervision

The operator is set to hold-to-run operation for closing or refuses to close if the PNE pinch guard is not OK, or if the control card does not receive a response from the pinch guard. The pinch guard supervision can be reset automatically if the pinch guard is operational and gives a signal at the floor (< 50mm from the floor) during hold-to-run operation down. A pulse of at least 150ms is required for the pneumatic pinch guard. (Look at the LED's D4 and D5).

3:1 Is there 24V AC between X1:7 and X1:13 the whole way down until the door reaches the floor and activates the pinch guard? (When the door reaches the floor, the pinch guard should be activated. It requires a pulse of at least 150ms to confirm to the control card that it is activated, (then there will be 0V between X1:7 and X1:13.)

Yes No → Check the PNE pinch guard and spiral cable (interruption?).



3:2 24V AC between X1:7 and X1:4? (via PNE pinch guard)

Yes No → Replace the manoeuvring card.



Pinch guard is OK. Check Paragraphs 5 and 6.

4. The door reverses on the way down.

4:1 Check, by shaking the door, that the pinch guard is not over-sensitive and affected by the vibrations of the door action. Where necessary, adjust/replace.

4:2 Check whether the pinch guard is OK, in accordance with Paragraph 3.

Yes



4:3 There should be 24V AC between X1:7 and X1:5 the whole way down.

Yes No → Check contact X3 plus jumper mounted between pins 1-2, possibly replace the manoeuvring card. Refer also to paragraph 7 on the safety photocell.

↓
4:4 Check, by disengaging and pulling down the door manually, that the door does not move abnormally on the way down, and that the door is balanced normally. OK?

Yes No → Adjust the door.

↓
4:5 Adjust the operator torque (force) or re-install the operator in accordance with the installation instructions in the manual.
Does the door move OK?

Yes No → Check whether the fault symptoms are the same as those in any other paragraph in this troubleshooting guide? Possibly replace the control card.

↓
Test operate the door for a while and check all of its functions.

5. The operator is in hold-to-run operation, both up and down

Any fault on the torque guard, encoder or in the control card memory, is indicated by the door being put into hold-to-run operation for opening as well as closing.

5:1 Re-install the operator in accordance with the instructions in the installation manual.
Is the door working OK?

Yes No → Replace the Processor card and reinstall.

↓
5:2 Is the door working OK?

Yes No → Replace the mechanical unit.

↓
Test operate the door for a while and check all of its functions.

6. The door reverses on the way down or stops on the way up / The door goes hold-to-run for closing

If the door is not properly balanced or moves slowly, the door may reverse on the way down or stop on the way up, due to the torque guard. If the door is stopped by the torque guard <50mm from the floor, an acknowledgement pulse from the pinch guard may fail and the operator will go into hold-to-run for closing. Also check the pinch guard, Paragraph 3.

6:1 **Check, by disengaging and pulling the door manually, that the door does not run abnormally slow on the way down, and that the balance of the door is normal. OK?**

Yes No → Adjust the door.

↓

6:2 **Adjust the operators torque (force) or re-install the operator in accordance with the instructions in the installation manual. Is the door working OK?**

Yes No → Replace the Processor card and re-install.

Is the door working OK?

↓

↓

Yes No → Replace the mechanical unit.

↓

↓

Test operate the door for a while and check all of its functions.

7. Safety Photocell

Any fault occurring in the safety photocell is indicated by the operator stopping gently and then going into reverse until it is fully open.

It may also refuse to close.

There must always be 24V AC between X1:7 and X1:5 until the beam of the photoelectric cell has been broken.

7:1 **Is the LED on the photocell amplifier on?**

Yes No → 24V AC between X3:3 and X3:5?

↓

↓

Yes No → Replace the manoeuvring card.

↓

Check that the cable connections for the photoelectric cell amplifier and optics are OK?

↓

↓

Yes No → Take action to rectify the fault.

↓

Replace the photocell amplifier or optics.

↓

7:2 **Does the LED on the photocell amplifier go out when the photocell beam is broken?**

Yes No → Check that the cable connections for the photocell amplifier and optics are OK?

↓

↓

Yes No → Take action to rectify the fault.

↓

Replace the photocell amplifier or optics.

↓

↓
7:3 Is there 24V AC between X1:7 and X1:5 when the photocell beam is broken?

Yes No → Check Paragraphs 4 and 5.

↓
7:4 Check cable connections for the photocell amplifier - OK?

Yes No → Take action to rectify the fault.

↓
Check that switch S1 on the photocell amplifier is in position 1.

↓
Yes No → Change S1 on the photocell amplifier to position 1.

↓
Replace the photocell amplifier.

8. The door tries to close but reverses

Check that the pinch guard is not activated.

9. The door reverses against the floor

9:1 Check that there are no foreign bodies in the door opening.

Clear? Not clear? → Clear up

↓
9:2 Has the door's shock absorber been replaced or moved forward?

No Yes → Re-install.

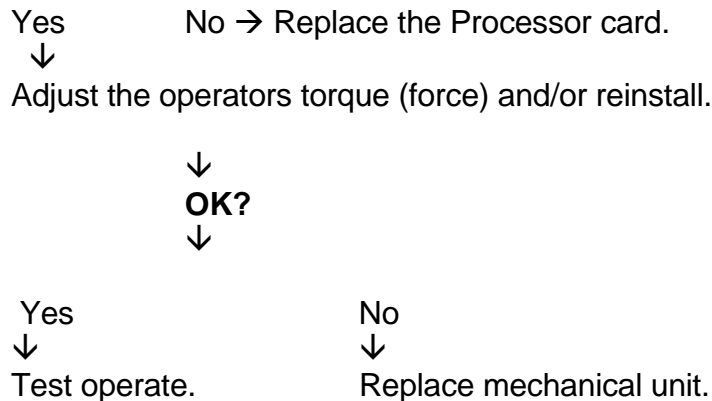
↓
9:3 Has the door leaf been deformed because of temperature changes/collisions, causing activation of the pinch guard to take place earlier?

No Yes → Adjust the door, re-install.

↓

10. The door often goes into the "failsafe mode" and needs to be reseted by cutting off the power.

10:1 Check whether the torque is high (and that the balance is OK)



Trouble shooting IDM9 with Control unit ECS 950

What should I do?

If the machinery does not start, check that it has not been disengaged.

Try to reset the control unit. Do this by cutting off the supply voltage and switch it on again after 5 seconds.

If the problem persists, try to test operate the door so that you are certain of the fault symptoms which apply:

- Any fault occurring in the pinch guard is indicated by the door having impulse operation for opening and hold-to-run for closing. If any fault is detected in the pinch guard when the door is closing, the door stops quickly and reverses to fully open position. The door is then put into impulse operation for opening and hold-to-run for closing. The pinch guard supervision can be reset automatically, if it is operational and gets a signal at the floor. (<50mm from the floor) during hold-to-run operation down. A pulse of at least 150ms is required for the pneumatic pinch guard. Refer to Paragraph 3 in ECS **930** Trouble shooting Guide.

- Impulse for opening/hold-to-run for closing are obtained if the torque guard has been activated when the door is located less than 50 mm from the floor and the pinch guard has received no acknowledgement pulse. This may be due to incorrect balancing and/or the door getting stuck. Refer to Paragraph 6 in ECS **930** Trouble shooting Guide.

- Any fault occurring on torque guard, encoder or in the control card memory is indicated by the operator being put into hold-to-run operation for opening as well as closing. Refer to Paragraph 5 in ECS **930** Trouble shooting Guide.

- If an installed operator happens to move in the wrong direction, the door stops against the floor and is inoperable, after which a re-installation is required. Re-install the operator in accordance with the installation instructions in the manual.

- If the door is not properly balanced, the door may either reverse on the way down or stop on the way up, due to the torque guard. Refer to Paragraph 6 in ECS **930** Trouble shooting Guide.

- Any fault occurring on the safety photocell is indicated by the door first stopping gently and then reverses to fully open position. Or if a permanent failure has occurred, the door cannot be closed. Refer to Paragraph 7 in ECS **930** Trouble shooting Guide.
- After it is disengaged or if power is cut off, the door can only be opened at first (to fully open position, in order to find its upper end position). If, during this, the door stops (by the torque guard) before it has reached the shock absorber, the door will reverse against the floor when it is next closed. After that, it will go into hold-to-run for opening as well as closing, (refer to Paragraph 5 in ECS **930** Trouble shooting Guide).
- The two leds, **D8 and D9**, on the manoeuvring pcb, indicates the stop circuit, if both are lit on a IDM 9 the stop circuit is ok.

Disengage and put the door into an intermediate position. Engage the operator and check that engagement has taken effect (by pulling the door up and down).

Problems during installation

If the encoder is broken, one will only be able to operate the door in hold-to-run up, but it will lock out in fully open position.

If the encoder is damaged but still counts pulses (but it misses some), the door will lose its position. The door will then not slow down, stop and similar.

NOTE! Always break the supply voltage when replacing PCB's or wires.

1. No function(s) is working on the "C"-card in the control units lid.

Check that the basic ECS 930 functions are working. One does this by unplugging X6 on the manoeuvring PCB (break the supply voltage, unplug X6 and switch on again) and then test run the Door. Be aware of the fact that photocell and radio are a part of the basic function, if installed.

1:1 Are the basic functions working?

Yes No → Proceed with the ECS 930 trouble shooting guide.



Plug in X6 on the manoeuvring PCB (break the supply voltage first).

1:2 Are the red LED's on "C"-card flashing?

Yes No → Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.



1:3 Check that the communication with the manoeuvring card is working.
The red LED's, D5 and D6, should flash almost simultaneously with ap. one second's frequency.

↓

Yes

↓

No → Check that the wires to X1:14-15 are connected right (wire 8 to X1:14 and wire 9 to X1:15). If so, replace the "C"-card or the Processor card in the mec. unit and if this is not enough, finally the manoeuvring PCB/ribbon cable/manoeuvring cable.

↓

1:4 Activate automatic closing according to the manual.
Turn S1:1-8 and S2:1-6 on the "C"-card to off and T1 and T2 to min.
The Door should be fully open. Is the Door closing automatically after ap. 5 sek?

Yes

No → Replace the "C"-card or the Processor card in the mec. unit.

↓

Check (see manual) that the switches S1:1-8 and S2:1-6 are set to the requested function(s).

2. No function on X8 input terminal(s).

Open, One button function, Additional safety, interlocking Door,
Open inside, Open outside, Reduced opening.

The input terminals are working with 24 VAC from the basic control unit.

Between X8: 2,4,6,8,10,12,14 and X8.15 shall it always be 24 VAC, if not the manoeuvring card is defect. Check that the switch for each function has a momentarily closing function.

2:1 The Open function doesn't work.
Shall open the Door from all positions and reverse a closing Door.
24VAC between X8:15 and X8:1 when a switch is activated?

Yes

No → Check wiring to outside switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

2:2 The One button function doesn't work.
Shall open the Door from all positions, reverse a closing Door and close a fully open Door.
24VAC between X8:15 and X8:3 when a switch is activated?

Yes

No → Check wiring to outside switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

- 2:3 Additional safety doesn't work.**
Shall reverse closing Door from all positions.
24VAC between X8:15 and X8:5 when a switch is activated?

Yes No → Check wiring to outside switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

- 2:4 Interlocking Door doesn't work.**
Closed Door shall not open if X8:7-8 has a closing.
24VAC between X8:15 and X8:7 when a switch is activated?

Yes No → Check wiring to opposite Door.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

- 2:5 The Open inside function doesn't work.**
Shall open the Door from all positions and reverse a closing Door.
24VAC between X8:15 and X8:9 when a switch is activated?

Yes No → Check wiring to outside switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

- 2:6 The Open outside function doesn't work.**
Shall open the Door from all positions and reverse a closing Door.
24VAC between X8:15 and X8:11 when a switch is activated?

Yes No → Check wiring to outside switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

- 2:7 Reduced opening doesn't work.**
Shall stop the Door at a programmed position (see switch S2:2)
24VAC between X8:15 and X8:13 when the switch is activated?

Yes No → Check wiring to the switch.

↓

Check that the ribbon cable between J1 and X6 is properly plugged in, if so replace the "C"-card if this is not enough, finally replace the manoeuvring card.

3. Warning/Traffic lights don't work

Check fuse F1 on HR-relay card (also fuse F10 at FR).

Check for 230VAC at X11:L1-N and that the light bulbs not are broken.

Check the adjustments of S1:1-8 with the manual (to assure that the right functions are chosen).

3:1 Check of red warning light: Door in middle position, S1:3 on. (Flashing red light between end positions). Is the LED D8 on HR-relay card flashing?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR-relay card, if this is not enough, finally replace "C"-card.

↓

Pulsating 230VAC between X11:N and X12:1 ?

Yes No → Replace the HR-relay card.

↓

Check cables, light bulbs and connections to the warning lights.

3:2 Check of green warning light: Door in fully open position. (Steady green light at open position). Is the LED D5 on HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓

230VAC between X11:N and X12:2 ?

Yes No → Replace the HR-relay card.

↓

Check cables, light bulbs and connections to the warning lights.

3:3 Check of inside traffic light, red: Switch S1:7 on. Open with Open inside button (X8:9-10). Stop the Door in middle position. (Flashing red light on the inside, steady red light on the outside). Is LED D8 flashing and LED D7 lit on the HR-relay card?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓



Pulsating 230VAC between X11:N and X12:1 ?
230VAC between X11:N and X12:4 ?

Yes No → Replace the HR-relay card.



Check cables, light bulbs and connections to the warning lights

3:4 Check of inside traffic light, green: Open with Open inside button (X8:9-10). Run the Door to fully open position. (Steady green light at open position). Is the LED D5 on HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.



230VAC between X11:N and X12:2 ?

Yes No → Replace the HR-relay card.



Check cables, light bulbs and connections to the warning lights.

3:5 Check of outside traffic light, red: Switch S1:7 on. Open with Open outside button (X8:11-12). Stop the Door in middle position. (Flashing red light on the outside, steady red light on the inside). Is LED D7 flashing and LED D8 lit on the HR-relay card?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.



Pulsating 230VAC between X11:N and X12:4 ?
230VAC between X11:N and X12:1 ?

Yes No → Replace the HR-relay card.



Check cables, light bulbs and connections to the warning lights.

3:6 Check of outside traffic light, green: Open with Open outside button (X8:11- 12). Run the Door to fully open position. (Steady green light at open position). Is the LED D6 on HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓

230VAC between X11:N and X12:3 ?

Yes No → Replace the HR-relay card.

↓

Check cables, light bulbs and connections to the warning lights.

4. No function on relay kit

4:1 Door in closed position: Is LED D10 on the HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR-relay card, if this is not enough, finally replace "C"-card.

↓

Connection between X13:4 and X13:6 ?

Yes No → Replace HR-relay card.

↓

Check cable and connections to outside function.

4:2 Door in open position: Is LED D9 on the HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓

Connection between X13:1 and X13:3 ?

Yes No → Replace HR-relay card.

↓

Check cable and connections to outside function.

5. No function on interlocking relay

5:1 Door in closed position: Is LED D11 on the HR-relay card NOT lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓

Connection between X13:7 and X13:8 ?

Yes No → Ok

↓

Replace HR-relay card.

5:2 Door in open or middle position: Is LED D11 on the HR-relay card lit?

Yes No → Check that the ribbon cable to J4 on "C"-card is properly plugged in, if so, replace the HR- relay card, if this is not enough, finally replace "C"-card.

↓

Connection between X13:7 and X13:8 ?

Yes No → Replace HR-relay card.

Check cable and connections to outside function.

6. No 24VAC output on X14:1-2

Check X14:1-2 for 24VAC without any consumer connected.

(To check for errors in a magnetic loop amplifier, for instance.) If so, replace the consumer in question. (Check that F10 is ok, FR only)

6:1 230VAC between X11:L1-N?

Yes No → Check supply voltage.

↓

Replace HR-relay card.

Additional:

7. No function on D1.

Warning light red, see 3:1.

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

24VAC for external consumer, see 6:1.

8. No function on D2.

24VAC for external consumer, see 6:1.

Check connections to/replace loop amplifier

Loop amplifier connections, see 2:1, 2:3

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

9. No function on D3.

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

24VAC for external consumer, see 6:1.

10. No function on D4.

Warning light red, see 3:1.

24VAC for external consumer, see 6:1.

Check connections to/replace loop amplifier

Loop amplifier connections, see 2:1, 2:3

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

11. No function on D5.

Traffic lights, see 3:3-6.

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

24VAC for external consumer, see 6:1.

12. No function on D6.

Traffic lights, see 3:3-6.

24VAC for external consumer, see 6:1.

Check connections to/replace loop amplifier

Loop amplifier connections, see 2:1, 2:3

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

13. No function on D7.

Warning lights, see 3:1.

Relay kit, see 4:1-2.

Interlocking, see 5:1-2

24VAC for external consumer, see 6:1.

14. No function on green warning light.

Green warning light, see 3:2.

15. No function on service counter.

Counts Door cycles, shows automatic closing times and relay output for alarm among other things. Check the manual for the right function.

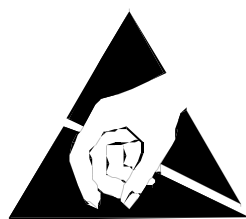
Check that the contact is properly plugged in into J7 on the "C"-card.

If it fails to operate, change the "C"-card or the counter itself.

Test run the Door for a while and check all functions.

Some errors may be exceptional errors that may occur, break the mains voltage and re-start the system to see if the error remains.

Error code	Reason	Action
E01	Error during reading of the RAM-memory- C-proc. card	Change C-processor circuit card.
E02	Error during verification of the EPROM-memory- C-proc. card	Change C-processor circuit card.
E03	Communication error between Processor card - C-proc. Card	See Trouble Shooting guide ECS 950. Step 1.
E04	Safety edge error	Check spiral cable and pneumatic switch
E05	Automation system off line due to hold to run	The control system has probably gone over to hold to run.
E08	Stop circuit	Stop circuit is open >2 seconds. Check if emergency stop button is pressed.
E09	Mains voltage to low	Check mains voltage.
E10	-----	-----
E11	Operator disengaged	Check that the Door engages properly.
E12	Overload operator	Change the Power- and Processor circuit card in the mec. unit.
E13	Error on interior stop circuits	Change the Processor circuit card in the mec. unit.
E14	Proc. A and B don't agree on command	Change the Processor circuit card in the mec. unit.
E16	Door moves in the wrong direction	Re-install the operator.
E17	Error on interior down circuits	Change the Processor circuit card in the mec. unit.
E18	Error on interior up circuits	Change the Processor circuit card in the mec. unit.
E19	Error on interior circuits for photocell amplifier	Change the Processor circuit card in the mec. unit.
E20	Error on current measurement circuits	Change the POWER circuit card in the mec. unit.
E21	Error on encoders or circuits for the encoders	Change the Processor circuit card or the mec. unit.
E22	Error during verification of the EPROM-memory- main card	Change the Processor circuit card in the mec. unit.
E23	Door out of end "limits"	Re-install the operator/Change the Processor circuit card or the mec. unit
E24	Power failure	Normal error code after mains break or disengagement. Run the Door to fully open.



NB:
ESD Protection

This control is equipped with electronic components which are sensitive to static electricity. The circuit board is located in the drive unit, in immediate proximity to the connection blocks.

In order to prevent the components being destroyed by static electricity during installation or service work, any staff coming into contact with the circuit board must first discharge their electric energy by touching a large earthed metal object immediately in the vicinity of the control, before work commences.